



A. *Diploria labyrinthiformis* with white plague, 12/16/96;
B. Same coral, Mario Reef, Puerto Rico, 1/5/97

Outbreak of coral disease in Puerto Rico

Between August and December 1996 an unusually high incidence of several coral diseases was documented on reefs near La Parguera, Puerto Rico. Diseased corals were concentrated on inner reefs, most notably on a submerged patch reef (Mario) approximately 1.5 km from shore. Coral diseases included white-band disease (type I; Peters et al. 1983) among *A. cervicornis*, patchy necrosis on *A. palmata*, black-band disease (Rützler and Santavy 1983) among *M. annularis* (morphotype I), and white plague (Antonius 1977). White plague had not been previously observed on these reefs. White plague, first appearing 2 weeks after Hurricane Hortense, rapidly spread among the genera *Colpophyllia*, *Dendrogyra*, *Diploria*, *Montastraea*, and *Siderastrea*. The disease was most severe among *Diploria labyrinthiformis*; on Mario Reef 47 % ($n = 52$) of the total population became infected within 100 m² of reef tract (2–10 m depth). The disease initiated at the base of a colony, in a depression within a colony, or at the interface between algal-covered skeleton and live tissue. The disease radiated outward (Fig. 1), alternating between periods of rapid spread (5–10 cm/week) and slow spread (< 1 cm/week), eventually killing 60–100 % of each colony. Infected corals surviving in 1997 continue to be afflicted with white plague. Rates of tissue mortality

slowed during cool water months (< 1 mm/week), however disease spread increased during May and June, and new colonies continue to become infected. Environmental conditions affecting Mario Reef during the fall of 1996 include a hurricane, heavy rainfall and chronic water turbidity; reef temperatures were at or below normal (< 29 °C).

References

- Antonius A (1977). Coral mortality in reefs: a problem for science and management. Proc 3rd Int Coral Reef Symp 2:617–623
Peters EC, Oprandy JJ, Yevich PP (1983) Possible causal agent of “white band disease” in Caribbean scleractinian corals. J Invert Pathol 41:394–396
Rützler K, Santavy DL (1983) The Black Band Disease of Atlantic Reef Corals. 1. Description of the Cyanophyte Pathogen. PSZNI: Mar Ecol 4:301–319

A.W. Bruckner, R.J. Bruckner

Department of Marine Sciences, University of Puerto Rico, PO Box 908, Lajas, PR 00667, USA

Reef sites

Coral Reefs (1997) 16: 260